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Real Estate Investment Trusts: Performance, Recent Findings, and Future Directions

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Abstract

The volume of research specifically directed at lodging real estate investment trusts (REITs) is slender, although numerous studies have been conducted on REITs generally. Studies of REITs generally have found that regulatory requirements disperse ownership and focus management's attention on its position as the shareholders' agents. While REITs have carried more uncertainty of results than conventional real estate investments, they remain a vehicle for relatively small investors to participate in large real estate holdings. Despite the presence and apparent success of lodging REITs, no study has specifically addressed which ownership format is most suited to the hotel industry.

Keywords

real estate investment trusts, lodging REITS, corporate finance, asset pricing

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Real Estate Investment Trusts

Performance, Recent Findings, and Future Directions

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The volume of research specifically directed at lodging real estate investment trusts (REITs) is slender, although numerous studies have been conducted on REITs generally. Studies of REITs generally have found that regulatory requirements disperse ownership and focus management's attention on its position as the shareholders' agents. While REITs have carried more uncertainty of results than conventional real estate investments, they remain a vehicle for relatively small investors to participate in large real estate holdings. Despite the presence and apparent success of lodging REITs, no study has specifically addressed which ownership format is most suited to the hotel industry.

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Created by the U.S. Congress in 1960, real estate investment trusts (REITs) have become an important segment of the U.S. economy and investment markets. REITs have seen their equity market capitalization soar from $5 billion to roughly $271 billion in just the past twenty-five years. In the process, that growth has set the stage for the adoption of the REIT approach to securitized real estate across the globe. The REIT industry has evolved dramatically over the past twenty years, so that major REITs today are actively engaged in operations through vertically integrated asset management. A typical vertical articulation in a single firm may span such functions as raw land acquisition and development, portfolio management, and operational-level property-tenant services.

REITs deserve our attention because studying their performance helps us understand better the value of commercial properties, which account for a significant proportion of the world's wealth. In addition, REIT stocks are often not covered in the finance literature. Even though REITs are traded on public exchanges, many finance researchers specifically exclude REITs from their samples, in part perhaps because REITs behave differently from other stocks in general financial markets.

The objective of this article is to summarize recent findings regarding REITs. The scope of research involving REITs has expanded substantially in recent years, and REITs provide a laboratory in which to study long-standing issues in financial markets and corporate finance. More than 140 articles on REITs were summarized by Corgel, McIntosh, and Ott (1995), and that work has been updated by Zietz, Sirmans, and Friday (2003). H. Chan, Erickson, and Wang (2003) have also done an intensive literature survey on the structure and performance of REITs. Recent studies examining REITs are organized into two major categories: (1) corporate financing decisions of REITs and (2) REIT pricing, performance, and financial market implications. This article examines previous studies with an emphasis on post-2003 publications in finance and real estate journals, and offers a brief discussion of lodging REITs. In the course this discussion I lay out a research agenda for this sector. After introducing the REIT institutional background, I review the literature on corporate finance–related issues and then pricing and financial market implications. Finally, I focus specifically on lodging REITs, which own and often operate hotels, motels, and resorts.

Institutional Background of REITs

REITs make it possible for investors at all levels to invest in large-scale, income-producing real properties by offering shares that function much like other liquid securities. To make REITs a more attractive investment, Congress waived corporate-level income taxes on REITs if they qualify under certain tax provisions—chiefly, that they disburse nearly all of their earnings as dividends. REITs are not taxed directly on their earnings, but the distributed earnings do represent taxable dividend income to shareholders.

Regulatory Constraints on REITs

A firm must meet several requirements to become a REIT. Although these requirements change over time, they can be grouped roughly into the following four categories:

- *Distribution requirements:* At least 90 percent of a REIT's annual taxable income must be distributed to shareholders as dividends.[1]
- *Asset requirements:* In each quarter, at least 75 percent of the value of a REIT's assets must consist of real estate properties, mortgages, cash, and government securities.[2]
- *Income requirements:* Annually, at least 75 percent of a REIT's gross income must be derived from income related to real estate, such as rents from real property, mortgage interest, dividends from other REIT holdings, or gains from property sales. Additionally, at least 95 percent of the gross

1. Before 2001, the minimum dividend payout ratio was constrained at 95 percent.
2. Since 2001, real estate investment trusts (REITs) have been allowed to own taxable REIT subsidiaries (TRSs), which engage in servicing tenants. However, no more than 25 percent of a REIT's assets can consist of TRS.

income must be derived from the above-listed sources, but it can also include other passive forms of income such as dividends and interest from non–real estate sources, such as bank deposit interest.[3]

- *Ownership requirements:* A REIT cannot be a closely held corporation. Shares in a REIT must be transferable and must be held by a minimum of one hundred persons. No more than 50 percent of a REIT's stock may be held by five or fewer distinct shareholders.[4] This is known as the 5/50 rule.

A company is prohibited from repeatedly switching its REIT status to minimize taxes. If a company loses its qualified status, the IRS can demand back taxes and interest on those taxes, and perhaps penalties. The company will also be barred from becoming a REIT for at least five years.

REITs are categorized into these three types:

1. equity REITs (investing in real properties, such as industrial, office, retail, multifamily, lodging, and other types);
2. mortgage REITs (lending or investing in mortgage/mortgage-backed securities); and
3. hybrid REITs (a combination of the above two types).

Becoming a REIT is simply a tax status election. Publicly traded REITs are governed by the same SEC and listing regulations as other publicly traded stocks. Going public is a separate decision from the decision to become a REIT. Exhibit 1 shows the evolution of public REITs in term of numbers of firms and total assets.

Corporate Finance Issues Involving REITs

Capital Structure

The academic corporate finance literature has explored the effects of taxes on a firm's capital structure in great detail. Theory suggests that there is a significant tax gain to be realized from corporate borrowing. Firms balance benefits (e.g., tax savings) against costs (e.g., deadweight bankruptcy costs) from debt. Howe and Shilling (1988) claim that there is a strong tax disadvantage to the use of debt for non-tax-paying firms, since these firms must compete in debt markets with firms for which interest expenses result in tax savings. Because they can count on a tax deduction, tax-paying firms can afford to pay higher interest on debt. Due to their tax-exempt status, the researchers argue, REITs should involve little or no debt financing. Jaffe (1991) disputes that reasoning and shows that the tax code is only one factor explaining leverage. Under general conditions, Jaffe's model shows that the values of REITs do not vary with leverage.

Rather than simply focus on total debt, Brown and Riddiough (2003) provide a detailed examination of the debt structure of REITs. They believe that firms adjust their leverage ratios towards optimal target levels and that each incremental financing activity is undertaken to adjust a firm's overall leverage to reach its target level. Brown and Riddiough find in addition that public debt is typically used to reconfigure a REIT's liability structure to maintain its credit rating, while equity offerings are more likely to fund investment. Consistent with Brown and Riddiough, Hardin and

3. No more than 30 percent of the gross income can be derived from the sale of stocks or securities held for less than six months or the disposition of real properties held for less than four years other than properties involuntarily converted or foreclosed on.
4. With the "look-through" provision enacted in 1993, pension funds are considered for the purpose of this rule to represent as many owners as there are pension plan members. Thus, in effect, institutional investors are not limited by this ownership requirement.

Exhibit 1:
Historical REIT Industry Market Capitalization: 1971-2009

	Composite		Equity		Mortgage		Hybrid	
End of Year	Number of REITs	Market Capitalization	Number of REITs	Market Capitalization	Number of REITs	Market Capitalization	Number of REITs	Market Capitalization
1971	34	1,494.30	12	332.00	12	570.80	10	591.60
1972	46	1,880.90	17	377.30	18	774.70	11	728.90
1973	53	1,393.50	20	336.00	22	517.30	11	540.20
1974	53	712.40	19	241.90	22	238.80	12	231.70
1975	46	899.70	12	275.70	22	312.00	12	312.00
1976	62	1,308.00	27	409.60	22	415.60	13	482.80
1977	69	1,528.10	32	538.10	19	398.30	18	591.60
1978	71	1,412.40	33	575.70	19	340.30	19	496.40
1979	71	1,754.00	32	743.60	19	377.10	20	633.30
1980	75	2,298.60	35	942.20	21	509.50	19	846.80
1981	76	2,438.90	36	977.50	21	541.30	19	920.10
1982	66	3,298.60	30	1,071.40	20	1,133.40	16	1,093.80
1983	59	4,257.20	26	1,468.60	19	1,460.00	14	1,328.70
1984	59	5,085.30	25	1,794.50	20	1,801.30	14	1,489.40
1985	82	7,674.00	37	3,270.30	32	3,162.40	13	1,241.20
1986	96	9,923.60	45	4,336.10	35	3,625.80	16	1,961.70
1987	110	9,702.40	53	4,758.50	38	3,161.40	19	1,782.40
1988	117	11,435.20	56	6,141.70	40	3,620.80	21	1,672.60
1989	120	11,662.20	56	6,769.60	43	3,536.30	21	1,356.30
1990	119	8,737.10	58	5,551.60	43	2,549.20	18	636.30
1991	138	12,968.20	86	8,785.50	28	2,586.30	24	1,596.40
1992	142	15,912.00	89	11,171.10	30	2,772.80	23	1,968.10
1993	189	32,158.70	135	26,081.90	32	3,398.50	22	2,678.20
1994	226	44,306.00	175	38,812.00	29	2,502.70	22	2,991.30
1995	219	57,541.30	178	49,913.00	24	3,395.40	17	4,232.90

(continued)

Exhibit 1: (continued)

	Composite		Equity		Mortgage		Hybrid	
End of Year	*Number of REITs*	*Market Capitalization*	*Number of REITs*	*Market Capitalization*	*Number of REITs*	*Market Capitalization*	*Number of REITs*	*Market Capitalization*
1996	199	88,776.30	166	78,302.00	20	4,778.60	13	5,695.80
1997	211	140,533.80	176	127,825.30	26	7,370.30	9	5,338.20
1998	210	138,301.40	173	126,904.50	28	6,480.70	9	4,916.20
1999	203	124,261.90	167	118,232.70	26	4,441.70	10	1,587.50
2000	189	138,715.40	158	134,431.00	22	1,632.00	9	2,652.40
2001	182	154,898.60	151	147,092.10	22	3,990.50	9	3,816.00
2002	176	161,937.30	149	151,271.50	20	7,146.40	7	3,519.40
2003	171	224,211.90	144	204,800.40	20	14,186.51	7	5,225.00
2004	193	307,894.73	153	275,291.04	33	25,964.32	7	6,639.37
2005	197	330,691.31	152	301,490.98	37	23,393.73	8	5,806.61
2006	183	438,071.10	138	400,741.40	38	29,195.30	7	8,134.30
2007	152	312,009.00	118	288,694.60	29	19,054.10	5	4,260.30
2008	136	191,651.00	113	176,237.70	20	14,280.50	3	1,132.90
2009	142	271,199.20	115	248,355.20	23	22,103.20	4	740.80

Source: National Association of Real Estate Investment Trusts.
Note: This table shows historical real estate investment trust (REIT) equity market capitalization outstanding at year-end from 1971 to 2009. Numbers are in millions of dollars.

Wu (2009) find that REITs with banking relationships tend to operate with lower leverage.

Another popular explanation of a firm's capital structure is the "pecking order" theory, which states that firms prioritize their sources of financing. The order is as follows: internal funds are used first; when that source is depleted, debt is issued; and when the debt capacity is reached, equity is issued. Feng, Ghosh, and Sirmans (2007) find that REITs with historically high market-to-book ratios tend to have persistently high leverage ratios. In essence, REITs enjoying strong growth opportunity and high market valuation raise funds through debt issues.

Using a sample of REIT issuance decisions, Boudry, Kallberg, and Liu (forthcoming) conclude that REITs strategically time the market when they adjust their capital structures. REITs operate in one of the few industries in which a firm's underlying assets trade in a secondary market. Therefore, analysts are able to obtain a mark-to-market measure of a firm's assets, the net asset value (NAV), as an alternative measure on the equity market. Boudry, Kallberg, and Liu find that a REIT is more likely to issue equity when its price-to-NAV ratio is high. Consistent with traditional market timing, REITs are more likely to issue equity after experiencing large price increases. Counter to the results of Feng, Ghosh, and Sirmans (2007), though, Boudry, Kallberg, and Liu find no evidence that the static pecking order plays an important role in REIT financing decisions.

The illiquidity of corporate assets represents a significant private cost to firms that choose to finance with debt. When a firm is in distress and has to liquidate its assets, potential industry buyers in the same industry are likely experiencing similar business difficulties and thus cannot pay full value for the assets. This effect of liquidation values on corporate debt capacity predicts that firms with relatively more liquid assets will prefer debt financing to equity. Giambona, Harding, and Sirmans (2008) find that evidence from the REIT industry supports the above hypothesis and report that REITs specializing in shorter lease maturity assets (higher liquidation value) use more leverage and longer debt maturity.

Corporate Governance

In the past few years, corporate governance issues have attracted considerable attention, particularly as they relate to issues of managers as agents. REITs offer a natural experiment through which to test corporate governance hypotheses due to their special legal and organizational structure. One of the most restrictive legal requirements is the 90 percent mandatory payout, which leaves little free cash flow for management. This legal obligation limits the opportunities for managerial expropriation and reduces agency problems. Hartzell, Kallberg, and Liu (2005) find that REITs with stronger governance structures have high initial public offering (IPO) valuations and better long-term operating performance than do their peers.

Another hypothesis states that the legal setting in which REITs operate should be complemented by internal corporate governance mechanisms to prevent managerial entrenchment and thus reduce agency problems. The 5/50 rule is designed to prevent the entrenchment of a small block of holders. Eichholtz and Kok (2008) argue that the 5/50 rule deters the formation of large block holders and protects REIT managers from the scrutiny of the market for corporate control.

Bauer, Eichholtz, and Kok (2009) investigate the governance-performance relation using the corporate governance quotient index. They find that corporate governance does not matter for firm value and operating performance in a sample of U.S. REITs. This is in contrast to the strong positive relationship between governance and performance

found in other industries. They also find that, for a subsample of REITs with relatively low payout ratios, governance is important. They attribute the weakening relationship to the mandatory payout rule and operational restrictions, which reduce the cost of deviations from the optimal governance structure.

Hartzell, Sun, and Titman (2006) study the effect of corporate governance on REIT investment decisions. They find that REITs with stronger corporate governance respond more positively to their real estate investment opportunities after controlling for other factors. Specifically, investment choices are more closed tied to Tobin's *q* (the ratio of stock market value to equity book value) if a REIT has greater institutional ownership or if it has lower director and officer stock ownership. Those results are consistent with the hypothesis that the independent directors and institutions serve a monitoring role and act as a check on managers' tendency to overinvest.

Dividend Payout Policy

Although the 2001 tax regulations state that REITs are required to pay out 90 percent of earnings, this regulation constraint does not seem to be entirely binding. Bradley, Capozza, and Seguin (1998) report that dividend payouts in their sample are on average about twice the net income. One reason for the requirement that REITs pay out most earnings to shareholders is that this reduces agency costs. It is a well-documented fact that managers have incentives to invest in negative net present value (NPV) projects if their compensation is related to company size. With limited retained earnings, REIT managers have to issue new debt or equity securities if they want to acquire a new building. Then the capital market will provide an effective monitoring function. Wang, Erickson, and Gau (1993) support the above hypothesis and find that REITs with high debt-to-asset ratios or low asset growth rates tend to pay out more dividends.

Another reason that REITs pay high dividends is to signal a firm's future cash flows. Standard finance textbooks say that managers should maintain a stable or increasing dividend-payment stream, as dividend cuts will be penalized by the capital market. If the 90 percent dividend payout constraint is really binding, we should observe dividend payouts fluctuating with REIT earnings. Therefore, by paying more dividends, the manager is essentially signaling to capital markets that future earnings will be higher. Bradley, Capozza, and Seguin (1998) find that REITs with greater leverage, smaller asset bases, or undiversified asset bases offer lower dividend payout rates. Because such firms have high cash flow volatility, it is more difficult for them to maintain a high dividend payout ratio.

Ghosh and Sirmans (2006) examine the influence of managerial performance, ownership, and governance on REIT dividend policies. Their analyses demonstrate that shareholders demand bigger dividends from poorly performing firms out of concern that managers would otherwise waste corporate assets on value-destroying projects. Dividends are a negative function of CEO stock ownership and are positively affected by board independence and a CEO's length of service.

Departing from the extant dividend policy literature, which does not differentiate between mandatory and nonmandatory dividend payments, Hardin and Hill (2008) study the determinants of excess dividend payments above mandatory requirements in REITs. They conclude that excess dividend payments are related to factors associated with reduced agency costs, such as the acquisition of short-term bank debt that subjects the firm to additional monitoring,

the use of stock repurchase programs, and strong operating performance.

Initial Public Offerings

Investors in IPOs of common stocks in the United States earned, on average, about an 18 percent return on the first day of trading during the 1970 to 2000 period, indicating significant underpricing for industrial firm IPOs. However, REIT IPOs provided their investors only a 0.21 percent gain during the same period, according to Wang, Chan, and Gau (1992) and H. Chan, Erickson and Wang (2003). Noting this phenomenon, researchers sought to determine what is special about REIT IPOs and what contributes to REITs' overpricing for IPOs. Ling and Ryngaert (1997), using a later time frame, document underpricing for REIT IPOs and find positive abnormal performance up to one hundred days after the offering. They indicate the following three possible reasons for REIT IPOs to behave differently from industrial firm IPOs: (1) the REITs have greater valuation uncertainty, (2) the REIT market comprises more institutional investors than does the industrial market, and (3) the organizational structure of REITs makes them more like a mutual fund IPO.

Buttimer, Hyland, and Sanders (2005) analyze the long-term performance of REIT IPOs. They find no evidence of the volatile post-IPO stock market performance that is typically found for other stocks. Taking a different approach, Hartzell, Kallberg, and Liu (2005) focused on the degree to which the characteristics of the underlying real estate markets, such as returns on unsecuritized commercial real estate, dividend payout, vacancy rates, and space market supply and demand, can help explain REIT IPO volume and long-term operating performances. They find no relationship between the heat of the IPO market and post-IPO operating performance.

REIT Pricing and Performance

Because REIT shares represent securitized real estate, their pricing may diverge from that of shares of industrial companies, because REITs may have different risk and return performance. Moreover, since REITs represent an alternative form of investment, investors might seek to know the extent to which REIT stocks are integrated into the general stock market. In short, the question is whether REITs are a form of real estate or stocks.

REIT Pricing

Gentry, Kemsley, and Mayer (2003) find that a firm's value is positively related to a firm's tax basis, indicating that future dividend taxes are capitalized into share prices. They estimated that each dollar of tax basis increases a REIT's share prices by nine to twenty-six cents, conditional on the fair market value of properties.

In the finance literature, classical dividend pricing (or present value) models are rejected using only dividends but accepted when share repurchases are included. The REIT mandate to pay out no less than 90 percent of earnings provides a test of those models. Using an index of REITs, Kallberg, Liu, and Srinivasan (2003) reexamine those models and conclude that the dividend-pricing models cannot be rejected.

Barkham and Geltner (1995) show that securitized real estate markets lead direct markets and conclude that direct markets are to some extent informationally inefficient. MacKinnon and Al Zaman (2009) find that REIT returns and returns to direct real estate both revert to the mean, which is caused by a tendency on the part of commercial property transaction prices to overshoot inflation. However, at all horizons REITs remain riskier than direct real estate. REITs play little or no role in optimal portfolios when both REITs and direct real

estate are available, especially for large, long-horizon investors.

Glascock, Lu, and So (2000) believe that there was a structural change in the early 1990s due to increased participation by institutional investors. They find that equity REITs have behaved more like traditional stocks than like real estate since 1992. In contrast, Clayton and Mackinnon (2003) show that equity REIT returns become increasingly sensitive to the performance of the underlying real estate and that REIT stocks have behaved more like real estate since 1992. They also find that small-cap REITs behave more like real estate than do large-cap REITs. Finding the opposite result, Lee, Lee, and Chiang (2008) show that large-cap REITs behave more like real estate than do small-cap REITs. They interpret the above results as evidence that institutional investors provide information-gathering services and strengthen the linkage between REIT returns and underlying real estate factors.

The development of a multifactor model in real estate has seen an increasing focus on macro-factor approaches. One of the earliest works, K. C. Chan, Hendershott, and Sanders (1990), examines equity REIT returns using the capital asset pricing model (CAPM) and arbitrage pricing theory (APT) approaches. Chen, Hsieh, and Jordan (1997) compare multifactor models using macroeconomic variables with principal component analysis (PCA) for REIT returns and conclude that the macro-factor model outperforms a statistical PCA model. Ling and Naranjo (1997, 1999), Ling, Naranjo and Ryngaert (2000), and others are all in favor of macro-factor approaches. However, the macro-factor model requires proxies for the key systematic risk factors to be priced fairly in high-frequency trading. Furthermore, the normality assumption is frequently rejected when measuring commercial real estate return. Lizieri, Satchell, and Zhang (2007) revisit the statistical approach and explore an independent component analysis (ICA) approach. Their examination of individual REIT returns suggests that the ICA procedure performs better than the PCA by considering skewness and kurtosis of return distribution.

Chui, Titman, and Wei (2003a, 2003b) examine the determinants of REIT returns in a multifactor framework and also find a structural break in the early 1990s. Before 1990, REIT returns were associated with the following four factors: momentum, size, turnover, and analyst coverage. However, only momentum was a significant factor in the post-1990 sample.

REIT Performance

Real estate firms can choose among a several organizational forms, such as REIT, master limited partnership (MLP), business trust, and corporation. As I explained above, the REIT has tax advantages over the other organizational forms, but REITs also have tighter restrictions, notably, the mandatory payout requirement. Damodaran, John, and Liu (1997) examine changes by real estate firms among these four types of organizational forms: REIT, MLP, business trust, and corporation. They classify these forms according to whether changing from one to another is to a looser or a tighter structure; and they document the associated changes in profitability, free cash flow, debt, and dividends from one form to another. They find that firms under financial distress at the time of organizational form change move to a more flexible structure, with subsequent reductions in dividends, improvements in performance, and increases in asset sales and investment.

Several studies have explored whether predictability improves the performance for an investor with a short investment horizon—that is, an investor who exploits only market timing and contemporaneous diversification opportunities. Liu and Mei (1994) analyzed the out-of-sample performance of investment

REITs with predictable returns and found that active strategies outperform passive ones, even after deducting transaction costs. This is no longer the case in more recent studies, such as Nelling and Gyourko (1998) and Ling, Naranjo, and Ryngaert (2000), who find it difficult to exploit predictability, particularly in the 1990s. While these studies focus on short-term portfolio strategies, Fugazza, Guidolin, and Nicodano (2009) investigate the welfare gains of time diversification in a multiperiod setting. They find that diversification into REITs increases both the Sharpe ratio (a ratio of excess return to investment riskiness) and the certainty equivalent of wealth for all investment horizons.

Information and REIT Performance

Damodaran and Liu (1993) study the way in which private information of real estate value spreads to the stock market via insider trading. REITs that choose to have their assets appraised provide an opportunity to examine how private information is used by insiders of the firm and how the private information signal operates to general stock market participants. There is substantial evidence that insider trading is present around corporate announcements and that insider trading generates abnormal stock returns. However, the timing and contents of private information are hard to measure and normally unobservable by researchers. Since REIT assets are mostly real properties, the REIT managers often hire an independent appraiser to value the firm's assets. Damodaran and Liu find that REIT insiders seem to trust the appraised value and trade on it for a profit and, in the process, reveal their information to outsiders. They attribute the informational value of appraisals to that fact that the independent appraisers combine the data from comparable properties with the internal data from the performance measures of REIT being appraised.

Capozza and Israelsen (2007) show evidence that levels of predictability vary with firm size, leverage, and investment focus. They find that momentum is stronger for larger, more leveraged REITs; while reversion is faster for focused, leveraged REITs. Those findings are consistent with the hypothesis that REIT information is either less costly to acquire or has less impact on fundamental value and should therefore exhibit less predictability.

Ambrose, Lee, and Peek (2007) study the information spillover effect after a REIT is included in a Standard & Poor's index. Even though REITs have been in existence for more than four decades, they play only limited roles in asset allocation for general investors. Beginning October 2001, twenty-one REITs were included in an S&P market index (i.e., S&P500, S&P400, and S&P600). Ambrose, Lee, and Peek use the index inclusion as a natural experiment as a nonfundamental event. They find that returns on REITs that remain outside those indexes tend to become more highly correlated with returns on general market indexes after other REITs join the indexes.

Subrahmanyam (2007) examines the liquidity and order flow spillover effect across New York Stock Exchange stocks and REITs using Granger causality tests and impulse-response functions. They find that (1) there are persistent liquidity spillovers running from REITs to non-REITs; (2) non-REIT effective spreads forecast shifts in REIT spreads at both daily and monthly horizons, and this effect is economically significant; and (3) order flows and returns in the stock market negatively forecast REIT order flows, which is consistent with the view that a REIT is a substitute investment for the stock market investors.

Lodging REITs

Lodging REITs have had a substantial effect on the ownership and operation of

Exhibit 2:
Lodging REIT Descriptions

Company Name	*Ticker*	*Property Focus*	*Headquarters*	*Description*
Ashford Hospitality Trust	AHT	Full service	Dallas, TX	Owns and has interests in more than 100 upscale hotels across 24 states and Washington, D.C.; most operate under the Hilton, Hyatt, Marriott, and Sheraton
FelCor Lodging Trust	FCH	Full service	Irving, TX	Owns upscale all-suite hotels, hotels, and resorts, located in 23 states
Host Hotels&Resorts	HST	Full service	Bethesda, MD	The largest lodging REIT, owns upscale and luxury full-service hotel properties in the U.S. and worldwide
LaSalle Hotel Properties	LHO	Full service	Bethesda, MD	Owns upscale and luxury full-service hotels in 11 states and D.C.
MHI Hospitality Cor.	MDH	Full service	Williamsburg, VA	Owns midscale, upscale, and upper-upscale full service hotels in the mid-Atlantic, Midwest and southeastern states
Strategic Hotels&Resorts	BEE	Full service	Chicago, IL	Owns luxury hotels and resorts in the U.S., Mexico and Europe
Sunstone Hotel Investors	SHO	Full service	San Clemente, CA	Owns upscale hotels mostly in New York and California
DiamondRock Hospitality	DRH	Full service	Bethesda, MD	Owns premium hotels in New York, Los Angeles, Chicago, Boston, and Atlanta. Hotels are operated under brands owned by Marriott, Starwood, and Hilton.
Pebblebrook Hotel Trust	PEB	Full service	Bethesda, MD	IPO in Dec. 2009, Pebblebrook plans to buy full-service and select-service luxury properties that don't need a major renovation
Hersha Hospitality Trust	HT	Limited service	Philadelphia, PA	Owns primarily midscale, upscale, and extended-stay properties in central business districts. The properties are operated under such brands as Comfort Inn, Fairfield Inn, Hampton Inn, Hilton Garden Inn, and Holiday Inn Express.
Hospitality Properties Trust	HPT	Limited service	Newton, MA	Owns midscale mostly suite hotels located in 38 states in the United States; Puerto Rico; and Ontario, Canada
Supertel Hospitality	SPPR	Limited service	Norfolk, NE	Owns limited-service hotels in 23 midwestern and eastern states

Source: SNL financial, Hoovers.
Note: As of January 1, 2010. REIT = real estate investment trust.

Exhibit 3:
Lodging REIT Statistics

Company Name	*Ticker*	*Hotels Owned*	*Rooms Owned*	*Market Capitalization*	*IPO Year*
Ashford Hospitality Trust	AHT	103	23,255	99.5	2003
FelCor Lodging Trust	FCH	89	25,656	118.2	1994
Host Hotels&Resorts	HST	243	63,076	3,976.5	1953
LaSalle Hotel Properties	LHO	31	8,494	453.8	1998
MHI Hospitality Cor.	MDH	9	2,199	8.8	2004
Strategic Hotels&Resorts	BEE	19	8,347	125	2004
Sunstone Hotel Investors	SHO	44	15,029	296.3	2004
DiamondRock Hospitality	DRH	20	9,586	456.6	2005
Pebblebrook Hotel Trust	PEB	NA	NA	NA	2009
Hersha Hospitality Trust	HT	76	9,556	144.8	1999
Hospitality Properties Trust	HPT	289	42,881	1,397.7	1995
Supertel Hospitality	SPPR	123	10,702	35.6	1994

Source: SNL financial.
Note: As of end of 2008. REIT = real estate investment trust.

lodging properties, but one could ask whether REITs are a good ownership form for the lodging industry. Hotels and other such properties push the bounds of the internal revenue code's attempts to constrain REITs to a passive role. The intensive daily operations in the hotel industry pose a challenge to the use of REITs to securitize real estate properties. On the positive side, REITs offer protection from the corporate taxes (and provide an income stream to shareholders). Moreover, REITs can spread the risk of hotel ownership over a wider financial and geographic base.

Although REITs have received considerable attention, little research has focused directly on lodging REITs. The first comprehensive discussion on lodging REITs was written by Paul Beals and John Arabia and published in *Cornell Hotel and Restaurant Administration Quarterly* in 1998. They provide an overview of REIT history and discuss a variety of REIT forms that have been used for hotel industry—in particular, the paired-share REIT, which is unique to hotel REITs. A paired-share REIT is a combination of a REIT and a C Corporation that trades as a single investment unit and has the same shareholders. The REIT owns real estate that is leased to the C Corporation, a fully taxable entity that operates the property. At the time of the 1998 *CQ* article, four paired-share REITs were extant. They were Starwood W Lodging Trust (which had bought out California Jockey Club/Pay Meadows Operating Co in July 1997), Patriot American Hospitality, First Union Real Estate Investments, and Meditrust Corp (which had purchased Santa Anita Realty Enterprises Inc in November 1997). These four companies did have their activities restricted, but since then the REIT Modernization Act of 1999 has loosened some of the restrictions and allowed REITs to own taxable REIT subsidiaries.

Based on a sample of sixteen hotel REITs and fifty-one non-REIT corporations from 1993 to 1999, Mooradian and Yang (2001) find the significant differences for the two types of company. The non-REIT companies are more heavily leveraged, pay lower dividends, and retain a larger amount of free cash flow than do the REITs.

Kim, Mattila, and Gu (2002) compare the performances of hotel REITs with six other

REIT sectors, as well as the overall stock market. They find that hotel REITs carry the highest market risk and underperformed office, industrial, and diversified REIT sectors.

Gu and Kim (2003) extend the Kim, Mattila, and Gu (2002) study and further research the determinants of the unsystematic risk of U.S. hotel REIT firms. They show that high leverage and high dividend payout tend to magnify the unsystematic risk, where large capitalization helps mitigate the unsystematic risk. Their results suggest that hotel REITs should use less debt financing and should consolidate via mergers and acquisitions.

Conclusions

The research record of REITs for the lodging industry is all too short. Given that hospitality REITs are well established, one question is whether public REITs are, in fact, a good form of ownership for hotels; and another is what factors should apply as one compares a lodging REIT with a hotel operating company. Given the diversity of ownership forms, the lodging industry is a fruitful area for research in this area. In this regard, Sunstone Hotel Investors has an interesting story to tell. Formed in 1985, Sunstone became a publicly trade REIT in 1995. Four years later, Sunstone was taken private in a management buyout with Westbrook Partners, a private equity firm. The company made an IPO again five years later, in October 2004, when the equity market was more favorable. Clearly, the principals saw a benefit to these changes. Their experience raises the questions of whether the REIT's tax benefits offset the regulatory requirements. Research might examine the pros and cons of REIT ownership versus that of a regular corporation and how performance under different ownership structures varies in different phases of the economic cycle. Those are potential research areas that have not explored in the lodging industry.

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